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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/826,882

04/16/2004

Juha Rasanen

915-007.085

9884

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7590

03/02/2010

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EXAMINER

LAI, DANIEL

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

03/02/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/826,882	Applicant(s) RASANEN ET AL.	
	Examiner DANIEL LAI	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-12,16-24 and 26-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-12,16-24,26 and 28-44 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION**Response to Amendment*****Response to Arguments***

Applicant's arguments filed 3 December 2009 have been fully considered but they are not persuasive. In response to the argument that WO 01/65881 (WO'881) does not disclose "[transmitting] at least one negotiation message containing a value for said parameter from a protocol entity of said first communication unit to said third communication unit of said first type or from a protocol entity of said third communication unit of said first type to a protocol entity of said first communication unit prior to said change of associations", Examiner respectfully disagrees. WO'881 discloses a target MSC may initiate a modify procedure during the set-up of the connection between the mobile station and the target MSC (p. 13, line 25-p. 14, line 3), and notice that the target MSC (GSM MSC) and the UMTS MSC (third communication unit of a first type) may be implemented within one entity or network node. Furthermore, giving the broadest reasonable interpretation, "prior to said change of associations" can be interpreted as before a mobile station is completely handed off from an old MSC to a new MSC, i.e., before the handover is completed. Therefore, WO'881 discloses "[transmitting] at least one negotiation message containing a value for said parameter from a protocol entity of said first communication unit to said third communication unit of said first type or from a protocol entity of said third communication unit of said first type to a protocol entity of said first communication unit prior to said change of associations".

As a result, the argued features read upon the cited reference.

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Claim Objections

Claim 23 is objected to because of the following informalities: The recitation “Automatic repeat request” in line 4 appears to be a typographically error and was meant to be “automatic repeat request”, as recited in line 3 of claim 21. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 28, 38 and 39 are NOT rejected under 35 U.S.C. 101 because the “computer readable memory” recited in claims 28, 38 and 39 is defined as "internal memory of a digital computer" in the instant application (see original claim 28, filed 16 April 2004). However, in order to clearly defined the "computer readable medium” to exclude transitory propagating signals per se, Applicant is suggested to amend claims 28, 38 and 39 to recite "A non-transitory computer readable memory”. Please refer to 1351 OG 212, Titled “Subject Matter Eligibility of Computer Readable Media” (23 February 2010).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 10 and 11 recite the limitations "said checking whether said parameter is required for the operation of said protocol..." in lines 3-4 and "said checking whether said parameter needs to be negotiated or re-negotiated" in lines 2-3, respectively. There is insufficient antecedent basis for this limitation in the claim. It appears that claim 10 is meant to depend on claim 42 because the above limitations are recited in claim 42, and for examination purposes it will be treated thus.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 26, 30, 36 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 01/65881, hereinafter WO'881.

Regarding claims 26, 30, 36 and 37, WO'881 discloses negotiation of parameters for use in the operation of a protocol that controls data transmission between first communication units and third communication units via second communication units (Background of the Invention, where WO'881 discusses standards; Summary of the Invention; p. 13, line 20-23), where said protocol is operated by protocol entities in the first and third communication units (p. 3, line 4-8), where a first communication unit is associated with a second communication unit and the second communication unit is associated with a third communication unit (p. 8, lines 12-31, where WO'881 discusses different network entities), where there exist third communication units of at least a first and second type that require different choices of said parameter (p. 8, lines 12-22, p. 11, line 29-p. 12, line 9). WO'881 discloses transmitting in the case that it is possible that an association of said first communication unit with a

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second communication unit that is associated with a third communication unit of a first time may be change to an association of said first communication unit with a second communication unit that is associated with a third communication unit of a second type (p. 12, lines 11-23; p. 13, lines 12-30), at least one negotiation message containing a value for said parameter from a protocol entity of said first communication unit to said third communication unit of said first type or from a protocol entity of said third communication unit of said first type to a protocol entity of said first communication unit prior to said change of association (p. 13, line 20-30; p. 12, line 11-23, p. 14, lines 5-11, where WO'881 discusses negotiation and renegotiation and parameters are negotiated before the actual handover procedure).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the

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contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'881.

Regarding claims 38 and 39, WO'881 discloses the limitations of claims 12 and 26 as applied above. WO does not explicitly disclose a computer readable memory in which a computer program product is loaded and when executed perform the actions of claims 12 and 26. However, since WO'881 is discussing a cellular system, and more specifically, GSM and UMTS networks, which would require computer programs to perform network operations. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the method of parameter negotiation as disclosed by WO'881 with a computer readable memory encoded with executable instructions and when executed perform the method of parameter negotiation disclosed by WO'881 in order to allow the method to perform with minimal manual process steps.

Claims 1, 5-11, 28, 29, 31, 32 and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/65881 A1 (hereinafter WO'881) in view of Applicant's Admitted Prior Art (AAPA).

Regarding claims 1, 29, 31 and 32, WO'881 discloses a method and a system for negotiation or re-negotiation of at least one parameter for use in the operation of a protocol that controls data transmission between first communication units and third communication units via second communication units (Abstract, where WO'881 discusses modifying connection parameter of a

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connection between a first node and a third node; p. 7, lines 13-26, where WO'881 discusses protocol),

where said protocol is operated by protocol entities in said first and third communication units (p. 8, lines 12-22, where WO'881 discusses mobile station connected to controllers with protocol),

where a first communication unit is associated with at least one second communication unit (p. 8, lines 14-15, where a mobile station is connected to base station),

where a second communication unit is associated with at least one third communication unit (p. 8, lines 12-13, where a base station is connected to a controller node), and

where there exist third communication units of at least a first and second type that require different choices of said parameter (p. 8, lines 15-18, where WO'881 discusses a GSM mobile switching center (MSC) and a UMTS MSC; p. 12, lines 4-9, where WO'881 discusses using different parameters in UMTS and GSM),

said method comprising:

starting, in case that an existing association of a first communication unit that was associated with a third communication unit of said first type is changed to an association of said first communication unit with a new second communication unit that is associated with a third communication unit of said second type (p. 12, lines 11-23, where WO'881 discusses handover from MSC of UMTS to MSC of GSM), an initiative for an exchange of at least one negotiation message containing a value for said parameter between protocol entities of said first communication unit and protocol entities of a third communication unit of said second type (p. 13, lines 25-p. 14, line 11, where WO'881 discusses negotiation of parameters with MSC of second type). WO'881 further discloses the mobile station is allowed to modify the parameters (p. 12, lines 15-16) and several

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variations and modifications may be made (p. 15, lines 9-10), but does not explicitly disclose transmitting, from a protocol entity of said first communication unit, a negotiation message containing a user-defined value for said parameter to a protocol entity of said third communication unit of said second type. However, AAPA discloses a mobile station protocol entity can initiate negotiation of parameters with an MSC entity, and parameter value can be modified by user (p. 2, lines 14-29). As suggested by AAPA, the negotiation can be initiated by protocol entity of either the mobile station or the MSC, and the parameters can be assigned by a default value or be modified by user or network (p. 2, lines 14-29). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the method of negotiating parameters as disclosed by WO'881 to initiate negotiation at the mobile station with user defined value as disclosed by AAPA to allow a user to negotiate for a user defined parameter for network connection between the mobile station and the MSC.

Regarding claim 5, WO'881 further discloses the first CU is a mobile station (Fig. 1; p. 8, lines 24-26), the second CUs are Base Transceiver Stations (Fig. 1; p. 8, lines 12-13), and the third CUs are Mobile Switching Centers (Fig. 1; p. 8, lines 15-18).

Regarding claim 6, WO'881 further discloses the third CU of the first type is a MSC of a mobile network operated according to the UMTS standard (p. 12, line 11-13), and the third CU of the second type is a MSC of a mobile network operated according to the GSM standard (p. 12, line 11-13).

Regarding claims 7 and 8, WO'881 discloses the protocol is circuit switched and is a radio link protocol (p. 12, line 11-13, according to background of the instant application, data transfer for GSM and UMTS is based on RLP (p. 1, lines 26-31), and WO'881 discloses GSM and UMTS (p. 12, lines 11-13), therefore, WO'881 discloses the protocol is a RLP).

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Regarding claim 9, WO'881 in view of AAPA further discloses said parameter defines a value of re-sequencing timer that guards a difference between delays of frames transmitted on different physical links within a multi-link protocol (AAPA, p. 2, lines 14-18, p. 3, lines 25-28, where WO'881 discusses re-sequencing timer).

Regarding claims 40-43, WO'881 in view of AAPA further discloses said transmitting is only performed if a checking performed by said first communication unit whether said parameter is required for the operation of said protocol between said protocol entities of said communication unit and said third communication unit of said second type and a checking performed by said first communication unit whether said parameter needs to be negotiated or re-negotiated both produced results (WO'881, p. 13, lines 25-27, where the negotiation procedure for the parameter is determined to be required, and therefore the parameter is also required; AAPA, p. 2, lines 14-29, where AAPA discusses mobile initiated negotiation), wherein both checkings are performed after said change of said association of said first communication has occurred (WO'881, p. 13, lines 30-31), and wherein said checking whether said parameter needs to be negotiated or re-negotiated comprises checking value for said parameter was defined by a user of said first communication unit (AAPA, p. 2, lines 14-29, where AAPA discusses parameter modified by user).

Regarding claim 10, WO'881 further discloses checking whether said data transmission between said first communication unit and said third communication unit of said second type is a multi-link transmission (p. 12, lines 25-30, where WO'881 discusses checking for required traffic channels).

Regarding claim 11, WO'881 further discloses wherein said checking whether said parameter needs to be negotiated or re-negotiated comprises checking value for said parameter was defined by a

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user of said first communication unit (AAPA, p. 2, lines 14-29, where AAPA discusses parameter modified by user).

Regarding claim 28, WO'881 in view of AAPA discloses the limitations of claim 1 as applied above. WO'881 does not explicitly disclose a computer readable memory in which a computer program product is loaded and when executed perform the actions of claim 1. However, since WO'881 is discussing a cellular system, and more specifically, GSM and UMTS networks, which would require computer programs to perform network operations. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the method of parameter negotiation as disclosed by WO'881 with a computer readable memory encoded with executable instructions and when executed perform the method of parameter negotiation disclosed by WO'881 in order to allow the method to perform with minimal manual process steps.

Claims 12, 16-18, 20-24, 33-35, 38 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rune (US 6,181,940 B1) in view of AAPA.

Regarding claims 12, 33-35 and 38, Rune discloses a method and a system for re-negotiation of a parameter of a protocol that controls data transmission (Abstract; col. 7, lines 45-54, where Rune discusses renegotiation) between first communication units and third communication units via second communication units (col. 5, line 59-col. 6, line 9, where Rune discusses mobile station, base station and mobile switching center, which represent first communication unit, second communication unit, and third communication unit, respectively),

where a first communication is associated with at least one second communication unit,

where a second communication unit is associated with at least one third communication (col. 5, line 59-col. 6, line 9; Fig. 1 and Fig. 2), and

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where there exist second communication units of at least a first type and second type that require different choices of said parameter (col. 7, lines 45-54, where Rune discusses mobile station moves to a portion of the network (covered by different base station) where a prevailing scheme (parameter) is no longer appropriate),

said method comprising:

exchanging, when an existing associating of said first communication unit with a former second communication unit of said first type is changed to an association of said first communication unit with a new second communication unit of said second type (col. 7, lines 45-54), said new second communication unit being associated with the same third communication unit with which said former second communication unit was associated (col. 5, lines 39-48 and Fig. 1, where the base stations providing coverage for mobile stations are coupled to MSC), a re-negotiation message containing value for said parameter of said protocol between a protocol entity of said third communication unit associated with said new second communication unit and a protocol entity of said first communication unit (col. 7, line 45-col. 8, line 21, where Rune discusses renegotiating parameter value between mobile station and network), wherein said protocol is operated by protocol entities in said first communication unit and said third communication unit before and after said change of said association (col. 9, lines 31-45, where Rune discusses different version of same standard can coexist within a single network). Rune discloses renegotiation of parameter value between a mobile station and a network when a mobile station roam into a portion of the network in which the network no longer supports the prevailing scheme, but does not expressly disclose the exchange of message for renegotiation is between protocol entity of a first communication unit and protocol entity of a third communication unit. However, AAPA discloses negotiation of parameter values between protocol entity of a mobile station and protocol entity of a mobile switching center (p. 2, lines 14-29).

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Therefore exchanging messages between mobile station (first entity) and mobile switching center (third entity) for negotiation has been known in the art. One with ordinary skills in the art would recognize that a mobile switching center provide control of network connections, and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the method and system for renegotiation of parameter value as disclosed by Rune to exchange negotiation message between a mobile station and mobile switching center as disclosed by AAPA in order to allow the mobile station to negotiate or renegotiate parameter value with the node that control network connection parameters. Regarding claim 38, Rune further discloses the system is computer controlled, and therefore requires computer readable memory loaded with computer program (col. 5, lines 48-52).

Regarding claim 16, Rune further discloses said first communication unit is a mobile station of a mobile radio system, wherein said second communication units are base transceiver stations, and wherein said third communication unit is a mobile-services switching centre (col. 5, lines 39-48).

Regarding claims 17, 18 and 20, Rune further discloses one out of said first and second types of said second communication unit is a base transceiver station that is connected to its associated mobile-services switching center via a lower-delay network, wherein the other type of said second communication unit is a base transceiver station that is connected to its associated mobile-services switching center via a higher delay network , wherein said lower-delay network is a time division multiplex network, and wherein said mobile-services switching center is either operated according to the universal mobile telecommunications system standard, the global system for mobile communications standard or a derivative thereof (col. 7, lines 1-5, where Rune discusses GSM network, and based on the instant application, lower-delay and higher delay network maybe operated under GSM standard (p. 14, lines 7-13)).

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Regarding claims 21-24, Rune in view of AAPA further discloses said protocol is a circuit switched, non-transparent single- and/or multi-link data protocol with automatic repeat request (ARQ), wherein said protocol is a radio link protocol (AAPA, p. 1, line 26-p. 2, line 13, where AAPA discusses GSM, RLP and ARQ), wherein said parameter defines a value of an acknowledgement timer that guards a re-transmission period after which a re-transmission of a not-acknowledged frame within a protocol with automatic repeat request may be started (AAPA, p. 3, lines 4-15, where AAPA discusses acknowledgement timer), and wherein said parameter defines a value of a re-sequencing timer that guards a difference between delays of frames transmitted on different physical links within a multi-link protocol (AAPA, p. 3, lines 25-28).

Regarding claim 44, Rune further discloses said mobile station, said base transceiver stations and said mobile-services switching centers are operated according to the same standard, which standard is one of the universal mobile telecommunications standard and the global system for mobile communications standard (col. 7, lines 1-5; col. 9, lines 35-45, where Rune discusses different version of a protocol standard).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rune in view of AAPA as applied to claim 17 above, and further in view of Hameleers et al. (US 2001/0030954 A1, hereinafter Hameleers).

Rune in view of AAPA discloses the limitations of claim 17 as applied above. Rune further discloses a GSM network, but does not expressly disclose said higher-delay network is at least partially based on the internet protocol or a satellite connection. However, an IP based network has been known in the art. For example, Hameleers discloses an IP-based GSM network with higher efficiency compare to state of art GSM system (paragraph 8). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the GSM network as disclosed

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by Rune with the IP-based GSM network as disclosed by Hameleers in order to increase efficiency of the network.

Allowable Subject Matter

Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL LAI whose telephone number is (571)270-1208. The examiner can normally be reached on Monday-Thursday 9:00 AM-5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. L./

Examiner, Art Unit 2617

/LESTER KINCAID/

Supervisory Patent Examiner, Art Unit 2617